

## CORNSTARCH QUICKSAND OOBLECK SCIENCE EXPLANATION

Cornstarch and water mixed acts both like a solid and a liquid. Cornstarch and water is a suspension mixture with a solid dispersed into a liquid. When you press the mixture quickly, the starch molecules close together.

This causes the water to get trapped between the starch chains and create a semi-rigid structure. When you press slowly, this starch chain “block” doesn’t happen and the mixture flows like a liquid.

Because the viscosity of the mixture changes with force rather than heat, the cornstarch mixture is known as a non-Newtonian fluid.

[Slime](#) is another fun non-Newtonian fluid.



## WHAT DO KIDS LEARN DOING THE CORNSTARCH QUICKSAND SCIENCE EXPERIMENT?

The biggest takeaway from this science experiment are non-Newtonian fluid science and viscosity science. Pressure causes the molecules in the starch to cling together, seizing up the mixture. But when you relax, the molecules relax and flow around your hand or foot or whatever they are on. Challenge your class to see what other non-Newtonian fluids they can think of. What makes these fluids different from regular fluids like water and syrup? Experiment with different amounts of cornstarch and water to see how long it takes for the

mixture to become a full liquid, when it becomes a full solid, and what levels of viscosity there are in between those extremes.

## **WHAT YOU'LL NEED FOR THE CONRSTARCH QUICKSAND SCIENCE EXPERIMENT**



For this experiment you will need:

- 1 box of corn starch
- Water
- A large bowl
- Food coloring

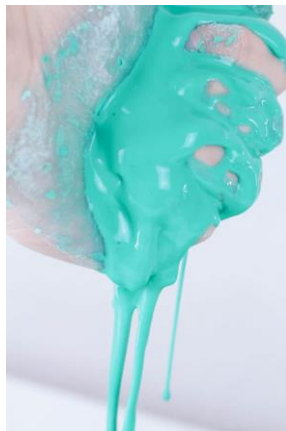
Mix the corn starch and the water together at a ratio of about 10 parts starch to 1 part water. Start the mixture by adding about  $\frac{1}{2}$  of a cup of cornstarch to about 1 cup of water.



Play with the mixture until it reaches the consistency that you want. You're aiming for a texture that is runny when relaxed, but still firm enough to seize up when they hit the mixture.



## CONRSTARCH QUICKSAND SCIENCE EXPERIMENT RESULTS



This cornstarch science experiment is messy, but is always a favorite with kids. Take it outside and make a big batch in a bucket or shallow pan. Then have the kids run across it really quickly. This makes it appear as if they are walking on water! Since they apply force when running, the mixture remains firm. But if they relax and stand still, they will sink into the goo. It's just like quicksand!

<https://www.steamsational.com/easy-stem-activities-for-elementary/>